

Claims

- [c1] A system comprising:
- a first programmable voltage line;
 - a second programmable voltage line;
 - a power control signal line;
 - a first programmable voltage supply, coupled to the first programmable voltage line, wherein based on a signal received at a first control input of the first programmable voltage supply, the first programmable voltage supply generates a voltage on the first programmable voltage line;
 - a second programmable voltage supply, coupled to the second programmable voltage line, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second programmable voltage line; and
 - a power controller block, coupled to the power control signal line, wherein based a signal on the power control signal line, the power controller block generates signals for the first and second control inputs.
- [c2] The system of claim 1 further comprising:

a connector coupled to the first programmable voltage line, second programmable voltage line, and power control signal line, wherein the connector is for receiving at least one of a module, daughter board, integrated circuit, programmable logic integrated circuit, field programmable gate array, programmable logic device, gate array, application specific integrated circuit, programmable system-on-a-chip, digital signal processor, microprocessor, or controller.

- [c3] The system of claim 1 further comprising:
a component, coupled to the first programmable voltage line, second programmable voltage line, and power control signal line, generating a signal on the power control signal line to direct the first programmable voltage supply to generate a voltage on the first programmable voltage line having a first voltage level and direct the second programmable voltage supply to generate a voltage on the second programmable voltage line having a second voltage level, independent of the first voltage level.
- [c4] The system of claim 3 wherein the component is at least one of a module, daughter board, integrated circuit, programmable logic integrated circuit, field programmable gate array, programmable logic device, gate array, application specific integrated circuit, system on a chip, programmable system-on-a-chip, digital signal processor,

microprocessor, or controller.

- [c5] A system comprising:
 - a first voltage supply line, connectable to a first pin of an integrated circuit;
 - a second voltage supply line, connectable to a second pin of the integrated circuit;
 - a first programmable voltage supply, coupled to the first voltage supply line, comprising a first power supply input line to control a voltage level on the first voltage supply line;
 - a second programmable voltage supply, coupled to the second voltage supply line, comprising a second power supply input line to control a voltage level on the second supply line; and
 - a power supply control circuit, coupled to the first and second power supply inputs.
- [c6] The system of claim 5 comprising:
 - a power control signal line, connectable to a receive a signal from the integrated circuit and coupled to the power supply control circuit, wherein based on the signal on the power control signal line, the power supply control circuit generates signals on the first and second power supply input lines to set voltage levels on the first and second voltage supply lines.

- [c7] The system of claim 5 wherein the integrated circuit is at least one of a field programmable gate array, programmable logic device, or digital signal processor.
- [c8] The system of claim 5 wherein voltage levels on the first and second supply lines may be set independently of each other.
- [c9] A system comprising:
 - a first module connector for connecting to a first module comprising a first integrated circuit, wherein the module connector comprises a first programmable voltage line and first power control signal line;
 - a first programmable voltage supply, coupled to the first programmable voltage line of the first module connector, wherein based on a signal received at a first control input of the first programmable voltage supply, the first programmable voltage supply generates a voltage on the first programmable voltage line; and
 - a first power controller block, coupled to the first power control signal line of the module connector, wherein based on a signal on the first power control signal line, the first power controller block generates a signal for the first control input.
- [c10] The system of claim 9 wherein the first integrated circuit comprises a programmable logic portion.

- [c11] The system of claim 9 wherein the first integrated circuit comprises at least one of programmable logic integrated circuit, field programmable gate array, programmable logic device, gate array, application specific integrated circuit, programmable system-on-a-chip, digital signal processor, or microprocessor.
- [c12] The system of claim 9 further comprising:
 - a second programmable voltage supply, coupled to a second programmable voltage line of the first module connector, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second programmable voltage line.
- [c13] The system of claim 9 further comprising:
 - a second module connector for connecting to a second module comprising a second integrated circuit, wherein the module connector comprises a second programmable voltage line and second power control signal line; and
 - a second programmable voltage supply, coupled to the second programmable voltage line of the second module connector, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply gener-

ates a voltage on the second programmable voltage line, wherein the second power control signal line is coupled to the first power controller block, and based on a signal on the second power control signal line, the first power controller block generates a signal for the second control input.

- [c14] The system of claim 9 further comprising:
- a second module connector for connecting to a second module comprising a second integrated circuit, wherein the module connector comprises a second programmable voltage line and second power control signal line;
 - a second programmable voltage supply, coupled to the second programmable voltage line of the second module connector, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second programmable voltage line;
 - and
 - a second power controller block, coupled to the second power control signal line of the module connector, wherein based on a signal on the second power control signal line, the second power controller block generates a signal for the second control input.

- [c15] The system of claim 9 wherein the first module connector removably couples to a first module.
- [c16] A system comprising:
 - a first integrated circuit comprising a first voltage pin and a first power control signal pin;
 - a first programmable voltage supply, coupled to the first voltage pin, wherein based on a signal received at a first control input of the first programmable voltage supply, the first programmable voltage supply generates a voltage on the first voltage pin; and
 - a first power controller block, coupled to the first power control signal pin, wherein based on a signal on the first power control signal pin, the first power controller block generates a signal for the first control input.
- [c17] The system of claim 16 wherein the first integrated circuit comprises at least one of programmable logic integrated circuit, field programmable gate array, programmable logic device, gate array, application specific integrated circuit, programmable system-on-a-chip, digital signal processor, or microprocessor.
- [c18] The system of claim 16 further comprising:
 - a second programmable voltage supply, coupled to a second voltage pin of the first integrated circuit, wherein based on a signal received at a second control input of

the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second voltage pin.

- [c19] The system of claim 18 based on a signal on the first power control signal pin, the first power controller block generates a signal for the second control input.
- [c20] The system of claim 16 wherein the first integrated circuit comprises a second power control signal pin, and the system comprises:
 - a second programmable voltage supply, coupled to a second voltage pin of the first integrated circuit, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second voltage pin,
whererin based on a signal on the second power control signal pin, the first power controller block generates a signal for the second control input.